AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for repair of a gas turbine blade, comprising:

providing a gas turbine blade, said blade comprising a first material and further comprising a blade tip and a blade body;

removing at least one portion of said blade tip;

providing at least one freestanding tip insert comprising a second material; and

disposing said at least one tip insert onto said gas turbine blade body such that said at least one tip insert replaces said at least one removed portion of said blade tip;

wherein said second material has at least one attribute selected from the group consisting of

a. a melting temperature greater than a melting temperature of said first material by at least about 80°C;

b. a fatigue life at least about three times greater than a fatigue life of said first material; and

c. a creep life at least about three times greater than that of said first material.

2. (Original) The method of claim 1, wherein said blade tip comprises at least one squealer, and said at least one portion of said blade tip comprises said at least one squealer.

3. (Original) The method of claim 1, wherein disposing comprises joining said at least one tip insert to said blade by means of a process selected from the group consisting of welding, brazing, and diffusion bonding.

4. (Original) The method of claim 1, wherein said at least one tip insert comprises at least one internal cooling channel.

5. (Original) The method of claim 1, wherein said at least one tip insert comprises a plurality of cooling holes.

6. (Original) The method of claim 1, wherein said at least one tip insert comprises a superalloy based on a metal selected from the group consisting of iron, cobalt, and nickel.

7. (Original) The method of claim 6, wherein said at least one tip insert comprises a directionally solidified material.

8. (Original) The method of claim 6, wherein said at least one tip insert comprises a single crystal material.

9. (Original) The method of claim 1, wherein said blade comprises a first material and said at least one tip insert comprises a second material, and wherein each of a creep life, a fatigue life, and an oxidation resistance for said first material is essentially equivalent to each of a creep life, a fatigue life, and an oxidation resistance of said second material, respectively.

10. (Cancelled)

11. (Currently Amended) The method of claim 1~~10~~, wherein said second material comprises a platinum group metal modified nickel-based superalloy.

12. (Original) The method of claim 11, wherein said superalloy comprises a metal selected from the group consisting of Pt, Pd, Rh, Ir, and Ru.

13. (Cancelled)

14. (Currently Amended) The method of claim 1~~13~~, wherein said second material has an oxidation resistance at least about 3 times greater than an oxidation resistance of said first material.

15. (Original) The method of claim 14, wherein said second material comprises a material selected from the group consisting of Rh, Pt, Pd, and mixtures thereof.

16. (Original) The method of claim 15, wherein said at least one tip insert further comprises a substrate material, and wherein said second material is disposed on said substrate material.

17. (Original) The method of claim 16, wherein said second material comprises a layer with a cross-sectional thickness in the range from about 0.13 mm to about 0.64 mm.

18. (Original) The method of claim 15, wherein said second material comprises Rh at a level of at least about 65 atomic percent.

19. (Original) The method of claim 15, wherein said second material further comprises a metal selected from the group consisting of Ir, Ru, and mixtures thereof, at a level of up to about 5 atomic percent.

20. (Original) The method of claim 14, wherein said second material comprises a refractory superalloy.

21. (Original) The method of claim 20, wherein said refractory superalloy comprises Rh.

22. (Original) The method of claim 15, wherein said second material further comprises Cr.

23. (Original) The method of claim 22, wherein the Cr is present at a level of up to about 25 atomic percent.

24. (Original) The method of claim 22, wherein said second material further comprises Al.

25. (Original) The method of claim 24, wherein the Al is present at a level of up to about 18 atomic percent.

26. (Original) The method of claim 24, wherein said second material further comprises Ni.

27. (Original) The method of claim 26, wherein the Ni is present at a level of up to about 45 atomic percent.

28. (Currently Amended) The method of claim 1~~10~~, wherein said second material comprises a directionally solidified eutectic material.

29. (Original) The method of claim 24, wherein said directionally solidified eutectic material comprises Ni, Ta, and C.

30. (Cancelled)

31. (Currently Amended) The method of claim 1 ~~10~~, wherein said second material comprises an oxide dispersion strengthened material.

32. (Original) The method of claim 31, wherein said oxide dispersion strengthened material comprises Ni, Cr, and yttrium oxide.

33. (Cancelled)

34. (Original) A gas turbine blade repaired by the method of claim 1.

35. (Currently Amended) A method for repair of a gas turbine blade, comprising:

providing a gas turbine blade, said blade comprising a first material and further comprising a blade tip and a blade body;

removing at least one portion of said blade tip;

providing at least one freestanding tip insert, said at least one tip insert comprising a second material chosen from at least one of a single crystal nickel-based superalloy, a NiTaC directionally solidified eutectic alloy, and an oxide dispersion strengthened alloy; wherein said second material has at least one attribute selected from the group consisting of

a. a fatigue life at least about three times greater than a fatigue life of said first material, and

b. a creep life at least about three times greater than that of said first material;

and

disposing said at least one tip insert onto said gas turbine blade body such that said tip insert replaces said at least one removed portion of said blade.

36. (Currently Amended) A method for repair of a gas turbine blade, comprising:

providing a gas turbine blade, said blade comprising a first material and further comprising a blade tip and a blade body;

removing at least one portion of said blade tip;

providing at least one freestanding tip insert, said at least one tip insert comprising a second material selected from the group consisting of rhodium, platinum, palladium, and mixtures thereof, wherein said second material has a melting temperature greater than a melting temperature of said first material by at least about 80°C; and

disposing said at least one tip insert onto said gas turbine blade body such that said tip insert replaces said at least one removed portion of said blade.

37-103 (Cancelled)

104. (Currently Amended) A gas turbine blade comprising:

a turbine blade body comprising a first material; and

a blade tip;

wherein said blade tip comprises at least one tip insert comprising a second material joined to said blade body, and

wherein said second material has at least one attribute selected from the group consisting of

a. a melting temperature greater than a melting temperature of said first material by at least about 80°C;

b. a fatigue life at least about three times greater than a fatigue life of said first material; and

c. a creep life at least about three times greater than that of said first material.

105. (Original) The gas turbine blade of claim 104, wherein a cross sectional thickness of said at least one tip insert is less than a wall thickness of said turbine blade body.

106. (Original) The gas turbine blade of claim 104, wherein a cross sectional thickness of said at least one tip insert is at least equal to a wall thickness of said turbine blade body.

107. (Original) The gas turbine blade of claim 104, wherein said at least one blade tip comprises at least one squealer.

108. (Original) The gas turbine blade of claim 104, wherein said at least one tip insert is joined to said blade body by means of a process selected from the group consisting of welding, brazing, and diffusion bonding.

109. (Original) The gas turbine blade of claim 104, wherein said at least one tip insert comprises at least one internal cooling channel.

110. (Original) The gas turbine blade of claim 104, wherein said at least one tip insert comprises a plurality of cooling holes.

111. (Original) The gas turbine blade of claim 104, wherein said at least one tip insert comprises a superalloy based on a metal selected from the group consisting of iron, cobalt, and nickel.

112. (Original) The gas turbine blade of claim 111, wherein said at least one tip insert comprises a directionally solidified material.

113. (Original) The gas turbine blade of claim 111, wherein said at least one tip insert comprises a single crystal material.

114. (Canceled)

115. (Canceled)

116. (Previously Presented) The gas turbine blade of claim 104, wherein said second material comprises a platinum group metal modified nickel-based superalloy.

117. (Original) The gas turbine blade of claim 116, wherein said superalloy comprises a metal selected from the group consisting of Pt, Pd, Rh, Ir, and Ru.

118. (Cancelled)

119. (Currently Amended) The gas turbine blade of claim 104~~118~~, wherein said second material has an oxidation resistance at least about three times greater than an oxidation resistance of said first material.

120. (Cancelled)

121. (Previously Presented) The gas turbine blade of claim 104, wherein said at least one tip insert further comprises a substrate material, and wherein said second material is disposed on said substrate material.

122. (Original) The method of claim 121, wherein said second material comprises a layer with a cross sectional thickness in the range from about 0.13 mm to about 0.64 mm.

123. (Previously Presented) The gas turbine blade of claim 104, wherein said second material comprises Rh at a level of at least about 65 atomic percent.

124. (Previously Presented) The gas turbine blade of claim 104, wherein said second material further comprises a metal selected from the group consisting of Ir, Ru, and mixtures thereof, at a level of up to about 5 atomic percent.

125. (Original) The gas turbine blade of claim 119, wherein said second material comprises a refractory superalloy.

126. (Original) The gas turbine blade of claim 125, wherein said refractory superalloy comprises Rh.

127. (Previously Presented) The gas turbine blade of claim 104, wherein said second material further comprises Cr.

128. (Original) The gas turbine blade of claim 127, wherein the Cr is present at a level of up to about 25 atomic percent.

129. (Original) The gas turbine blade of claim 127, wherein said second material further comprises Al.

130. (Original) The gas turbine blade of claim 129, wherein the Al is present at a level of up to about 18 atomic percent.

131. (Original) The gas turbine blade of claim 129, wherein said second material further comprises Ni.

132. (Original) The gas turbine blade of claim 131, wherein the Ni is present at a level of up to about 45 atomic percent.

133. (Cancelled)

134. (Previously Presented) The gas turbine blade of claim 104, wherein said directionally solidified eutectic material comprises Ni, Ta, and C.

135. (Cancelled)

136. (Cancelled)

137. (Previously Presented) The gas turbine blade of claim 104, wherein said oxide dispersion strengthened material comprises Ni, Cr, and yttrium oxide.

138. (Cancelled)

139. (Original) A gas turbine blade comprising:

a turbine blade body <u>comprising a first material</u>; and

a blade tip;

wherein said blade tip comprises at least one tip insert joined to said blade body, said at least one tip insert comprising a <u>second</u> material chosen from at least one of a single crystal nickel-based superalloy, a NiTaC directionally solidified eutectic alloy, and an oxide dispersion strengthened alloy,

<u>wherein said second material has at least one attribute selected from the group consisting of</u>

a. a fatigue life at least about three times greater than a fatigue life of said first material, and

b. a creep life at least about three times greater than that of said first material.

140. (Original) A gas turbine blade comprising:

a turbine blade body comprising a first material; and

a blade tip;

wherein said blade tip comprises at least one tip insert joined to said blade body, said at least one tip insert comprising a second material selected from the group consisting of rhodium, platinum, palladium, and mixtures thereof, wherein said second material has a melting temperature greater than a melting temperature of said first material by at least about 80°C.